RFO AquaCity SW

(Management of remote reading metering devices)

DATASHEET

Product name	RFO AquaCity

General Specifications

To achieve Aquacity system maximum performance a powerful software is needed that can manage the hardware network of remote reading devices as well as the information collected from the meters.

The software consists of 2 different blocks:
- **Library and Service Machine**, successfully manage communications with devices and meters.
- **Online access WEB Interface**, enables managing and making use of the data collected.

This software is specially desinged to be installed on any server, without requiring big resources, and therefore optimizing costs of the AquaCity network exploitation. Each software block can be installed on different servers, and using the MSS+TxNCOM block the software can even be embedded in the client's software.

SW functional blocks

TxNCOM(JAR) and MSS (WAR)

This package allows direct communication with the AquaCity network hardware devices making use of the different access possibilities.

- The **TXNCOM** communications library enables communication with all the elements in the AquaCity network, simplifying communications.
- Integration of all available meter protocols allowing new protocols to be built in, and keeping the compatibility with the rest of the system.
- The **MSS** Service Machine, making use of the TxNCOM, collects the information from all the devices, verifying reception has been done correctly and ensuring 100% of expected receptions intelligently managing retries.
- Network Functionality access making webservice calls.
- Designed to be built in any software, enabling a complete network control.

WEB Interface

WEB access Application with user and password.

The Application consists of the following modules:

- **Installation** of new networks and topologies, extensions, etc.
- **Maintenance** of the hardware network and drinking water meters.
- **Management** of the readings from all the meters and scheduled meter reading collections from all sectors.
- Generation of necessary **Files** for each client, considering specific or standard formats.
- **Graphs and Reports** of the information collected, consumption evolution and historical data. Hydraulic group definition to make water balances and computing efficiency of the water distribution network.
- **AquaCityUp**, gives access to the physical values measured by the AquaCity system.

SW displays:

Articel No:	RFO AquaCity

Typical Applications:

Water management agriculture	Big Parks & Gardens
Water management industrial apllications	Remote animal grazing
Purifying plants	Also useful for any other application with control of liquides
Greenhouse	
Golf areas	

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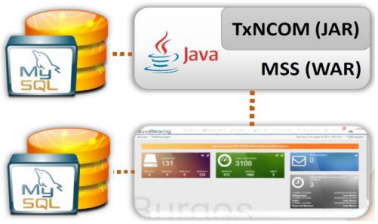

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Universal System on Fixed Network

Nowadays a multitude of water meter manufacturers exist with different remote reading systems using different communication protocols.

If a specific manufacturer system is chosen the management of the water network gets directly linked to the physical system from then on.

The AquaCity System is a new universal system that allows to choose water meter model and manufacturer in a free way offering a system able to integrate all market protocols available open and known in a single platform and enabling the water manager to collect the data obtained from any meter in a single format.

The system can integrate available radio frequency protocols as well as new emerging communication systems. Therefore you can say it's a platform that can integrate the Past,Present and Future meters, building the vertical line of **Smart Metering** inside a **SmartCity**.

System architecture

The AquaCity System consists of 2 different parts.

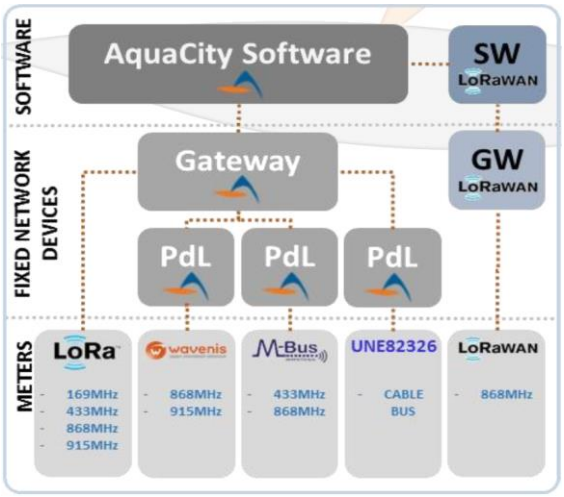
Software and Devices on a Fixed Network.

With the use of Fixed Network Devices the system is able to collect the data from the meters with the following protocols:

- **LoRa** – Private Radio Protocols.
- **Wavenis** – Bidirectional Radio Protocol.
- **WMBus** – Unidirectional Radio Protocol.
- **UNE82326** – Bidirectional Bus Protocol.

In addition with the use of Gateway LoRa WAN and the specific software LoRa WAN the AquaCity Software integrates LoRa WAN meters with private protocols.

Each protocol and each system use specific radio frequencies. (see figure).



AquaCity System

The AquaCity system allows collecting information from any meter providing a reading system installed.

The system is able to obtain and manage up to 24 daily readings per meter, adjusting the information to the water manager requirements and subsequently using the data to make a correct water network maintencance.

With the warning analysis and data comparison the water network control is optimum making the system more efficient and minimizing hydric resources needed.

In addition as the readings are made remotely the end user is not distrubed as with manual readings.

The system enables the reading of each meter 100% of the time, optimizing communications and collecting 100% of the meter data, thanks to the smart reading each device can perform. Each PdL from the Fixed network is in charge of collecting the data of the meters assigned to it smartly managing retries.

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